**18CS306**

**Hall Ticket Number:**

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| **II/IV B.Tech (Regular / Supplementary) DEGREE EXAMINATION** | | | |
| **February, 2021** | **Computer Science and Engineering** | | |
| **Third Semester** | **Microprocessors & Microcontrollers** | | |
| **Time:** Three Hours | | **Maximum :** 50 Marks | |
| *Answer ALL Questions from PART-A.* | | | (1X10 = 10 Marks) |
| *Answer* ***ANY FOUR*** *questions from PART-B.* | | | (4X10=40 Marks) |
| **Part - A** | | | |

**1.** Answer all questions (1X10=10 Marks)

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| a | What are the differences between the Microprocessor and Microcontroller? |
| b | What is the size and purpose of instruction byte queue? |
| c | How much memory in kilo bytes (KB) that can be addressed by 8086 microprocessor? |
| d | Define macro. |
| e | What are the sources of interrupts? |
| f | What is a type 0 interrupt? |
| g | Define machine cycle. |
| h | List any three key switches. |
| i | What are the applications of microcontrollers. |
| j | Draw the format of PSW register in 8051 |

**Part - B**

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| 2. | Explain the architecture of 8086 microprocessor with neat block diagram. | 10 M |

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| 3.a | Explain the directives of 8086 microprocessor. | 7 M |
| 3.b | Write an assembly language program to find the average of three numbers and store the result in accumulator. | 3 M |

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| 4. | Discuss all the parameter passing techniques to and from procedures with an example. | 10 M |

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| 5.a | Differentiate between near procedures and far procedures | 5 M |
| 5.b | Explain the 8086 stack | 5 M |

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| 6.a | Explain bus activities during read machine cycle with timing diagram | 5 M |
| 6.b | Write an ALP in 8086 for comparison of the two strings | 5 M |

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| 7. | Explain 8086 pin diagram with a neat sketch | 10 M |

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| 8.a | Explain priority interrupt controller functionality with a neat diagram | 5 M |
| 8.b | Explain 8237 DMA Controller | 5 M |

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| 9.a | List and explain the addressing modes of 8051 | 5 M |
| 9.b | Explain 8051 arithmetic instructions with examples | 5 M |

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